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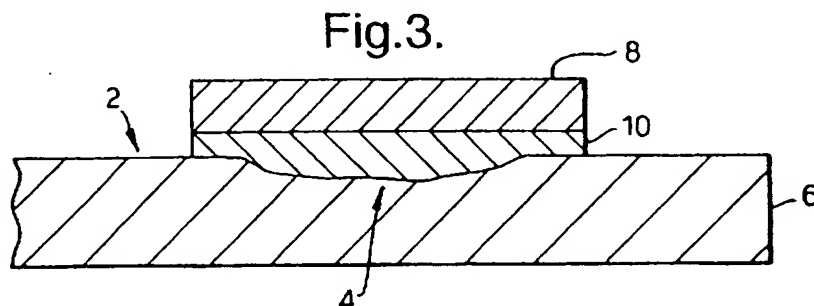
(56) Documents Cited
EP 0552956 A1 EP 0358850 A2

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(54) Abstract Title

Attaching labels to sheet glazing material

(57) A method of attaching a label 8 to a surface 6 of a sheet glazing material 2 by applying a layer of curable adhesive 10 to a surface area including a translucent area 4, laying the label 8 on to the adhesive layer 10 over the translucent area 4 and curing the adhesive 10. The adhesive has the effect of matching the refractive index of the translucent area 4 to the refractive index of the rest of the glazing material 2. The adhesive 10 is of a type which will cure only when sandwiched between two opposed surfaces. The glazing material 2 may be a vehicle window such as a car sidelight, and the label may be transparent.



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Fig.1.

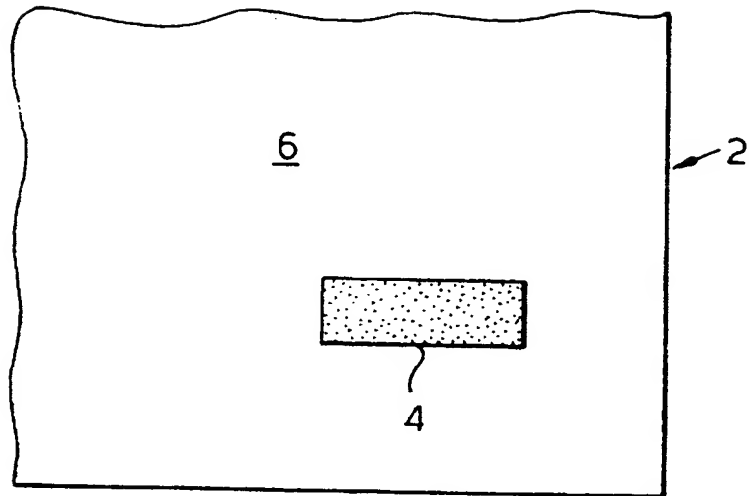


Fig.2.

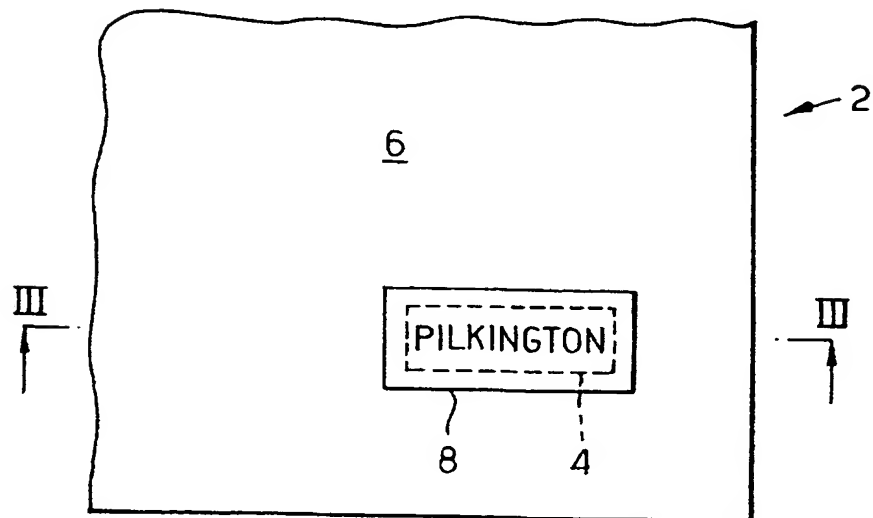
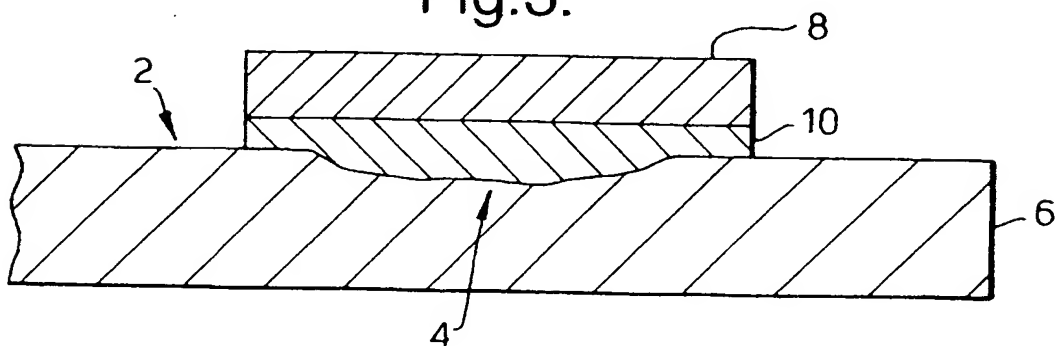


Fig.3.



TITLE

Attaching Labels

DESCRIPTION

The invention relates to a method of attaching labels to sheet glazing materials such as vehicle windows. It is well known to stick labels to the inside surface of vehicle windows, and the labels are printed with information, trade marks etc. on, for example, the surface against the window so as to be readable from outside the vehicle.

As part of the automotive glass production process, most vehicle windows are marked as they pass along the production line with the names and/or logos of the window manufacturer and the customer for whom the windows are intended.

The marks may be screen printed at the same time as the obscuration band (a, usually, black band around the periphery of the window, amongst other things, to protect the adhesive which bonds the window to the vehicle body from UV degradation).

In recent years a number of so-called "common platform" vehicles have been produced. These are vehicles which are jointly developed and made by two or more manufacturers, and then virtually identical versions of the vehicles are separately marketed by each of the manufacturers under different names. An example of this situation in the UK is the multi-purpose vehicles sold by the Ford and Volkswagen companies under the names GALAXY and SHARAN respectively.

Glass replacement outlets, who replace windows which are damaged during the life of the vehicle, obviously wish to maximise the potential of their stock and, as far as common platform vehicles are concerned, do not want to be limited from supplying a common component for any particular vehicle because it bears the name of the

companion vehicle's manufacturer . Hence, for this reason at least, it is necessary to remove the customers name from printed windows that are to be supplied to glass replacement outlets.

A common technique of removing the customer's mark is by grinding it off using a grinding belt, and the ground area may be subsequently sand blasted to make it smoother. The problem with this technique is that grinding and blasting can spoil the appearance of the window by leaving it with an albeit small but nevertheless noticeable translucent area. The translucence is due primarily to a roughening and distortion of the glass surface, which affects refraction.

An attempt has been made to hide any translucent area under a self-adhesive label. The label, which may be printed on its top side with one of the window manufacturers trade marks, is stuck on to the inside surface of the window over the translucent area. However, the label fails entirely to disguise the translucent area and the translucence hampers the readability of the trade mark from outside.

The invention provides a method of attaching a label to a surface of a sheet glazing material comprising applying a layer of curable adhesive to a surface area including a translucent area, laying the label on to the adhesive over the translucent area and curing the adhesive.

Preferably, the adhesive has the effect of matching the refractive index of the translucent area to the refractive index of the rest of the glazing material.

Further preferably, the adhesive is of the type which will only cure when sandwiched between two opposed surfaces. An example of such an adhesive is the clear, solventless UV-curable adhesive, grade no. UV7349, available in the UK from

Permabond Europe. The advantage of using an adhesive of this type is that excess adhesive outside the area of the label, which is not sandwiched between the label and the glazing material surface, will not cure and can therefore be more easily removed so as to neaten the area around the label. One potential difficulty with adhesives of this type is that they tend not to function as well if they are applied in too thick a layer, which results in the adhesive forming its own sandwich distinct from the layers it is sandwiched between. To avoid this, the laying of the label on to the adhesive layer may include applying sufficient pressure to reduce the layer to a thickness required for thorough curing. It has been found that the excess, uncured adhesive can be most successfully removed from the surface of the material around the label with domestic cleaning preparations readily available in the UK, for example AJAX Shiny Surface Cleaner.

Although UV cure adhesives are preferred for glazing materials, heat cure adhesives are equally applicable.

The label is preferably of transparent material and printed on one side.

The invention also provides a sheet glazing material to which a label has been attached by an aforementioned method.

An embodiment of the invention will now be described, by way of example, with reference to the following drawings in which:

Figure 1 is a partial plan view of a common platform vehicle sidelight including a ground and sand blasted translucent area;

Figure 2 is a partial plan view of the sidelight shown in figure 1 after a label has been attached over the translucent area using a method according to the invention;
and

Figure 3 is a partial cross sectional view taken along the line III-III in figure 2.

With reference to figure 1, a car sidelight 2 destined for an automotive glass replacement outlet has a translucent area 4 on its inside surface 6. The translucent area 4 is where the customer's name was originally screen printed as part of the production process. Since then, the name has been ground off the surface 6 with a grinding belt and afterwards sand blasted so as to make the ground area smoother. The grinding and sand blasting results in an area of the inside surface 6 becoming roughened and distorted, and contributes to that area being translucent.

Figure 2 shows the same sidelight as figure 1 but after it has had a transparent vinyl label 8 attached over the translucent area 4 by the following method: First of all, a layer 10 of clear, solventless UV-curable acrylic adhesive, grade no. UV 7349, available in the UK from Permabond Europe, is applied to the translucent area and beyond, to the extent that the area of the adhesive 10 is greater than the area of the label 8. This particular type of adhesive has to be sandwiched between two opposed surfaces to cure, the surfaces in this case being the sidelight surface 6 and the underside of the label 8. However, if the adhesive layer 10 is too thick, the adhesive effectively forms its own sandwich and does not offer optimum performance. Consequently, when the label 8 is laid on top of the layer 10, it is pressed towards the surface 6 so as to reduce the layer 10 to the thickness of less than 2mm. The region of the label 8 is then exposed to a UV source with a wavelength of 360 nm for about thirty seconds until the sandwiched adhesive is cured. The uncured adhesive (not shown) outside the area of the label 8 is removed by wiping it off with AJAX Shiny Surface cleaning preparation.

Figure 3 illustrates how the adhesive layer achieves a so-called “wetting” of the surface 6, that is to say, the adhesive layer 10 alters the surface characteristics at the translucent area 6, primarily affecting refraction; the adhesive layer 10 has the effect of matching the refractive index of the translucent area 6 to the refractive index of the rest of the sidelight 2, so as to make the translucent area 4 (shown in hidden detail) virtually undetectable and enabling the manufacturer’s trade mark, in this case PILKINGTON, screen printed on the top side of the label 8, to be clearly read from outside the vehicle.

CLAIMS

1. A method of attaching a label to a surface of a sheet glazing material comprising applying a layer of curable adhesive to a surface area including a translucent area, laying the label on to the adhesive layer over the translucent area and curing the adhesive.
2. A method according to claim 1 wherein the adhesive has the effect of matching the refractive index of the translucent area to the refractive index of the rest of the glazing material.
3. A method according to claim 1 or claim 2 wherein the adhesive is of the type which will only cure when sandwiched between two opposed surfaces.
4. A method according to claim 3 wherein laying the label on to the adhesive layer includes applying sufficient pressure to reduce the layer to a thickness required for thorough curing.
5. A method according to claim 3 or claim 4 wherein excess, uncured adhesive is removed from the surface of the glazing material with a cleaning preparation.
6. A method according to any preceding claim wherein the adhesive is either UV or heat cured.

7. A method according to any preceding claim wherein the label is of transparent material and printed on one side.
8. A method according to any preceding claim wherein the translucent area is created by grinding and optionally sand blasting the surface of the glazing material.
9. Sheet glazing material to which a label has been attached by a method according to any of claims 1 to 7.
10. Sheet glazing material according to claim 9 for vehicle front, rear, side or roof lights.
11. A method of attaching a label to a surface of a sheet glazing material substantially as herein described with reference to figures 1 to 3 of the drawings.
12. Sheet glazing material to which a label has been attached substantially as herein described with reference to figures 1 to 3 of the drawings.



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Claims searched: 1-12

Examiner: Stephen Smith
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Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): B8F

Int Cl (Ed.6): B65C 1/00, 1/02, 9/20, 9/25, 11/06; G09F 3/10

Other: ONLINE:WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	EP 0552956 A1 (MOORE) line 41 of column 4 to line 7 of column 5	
A	EP 0358850 A2 (FIRMA GERECKE) line 46 of column 2 to line 14 of column 3	

X Document indicating lack of novelty or inventive step
Y Document indicating lack of inventive step if combined with one or more other documents of same category.

& Member of the same patent family

A Document indicating technological background and/or state of the art.
P Document published on or after the declared priority date but before the filing date of this invention.
E Patent document published on or after, but with priority date earlier than, the filing date of this application.